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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09 855,493	05 16 2001	Takahiro Horiguchi	208544US2	9447

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EXAMINER

KACKAR, RAM N

ART UNIT	PAPER NUMBER
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1763

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DATE MAILED: 12/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/855,493

Applicant(s)

HORIGUCHI ET AL.

Examiner

Ram N Kackar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 November 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 21-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 21- 25, 28- 29 and 35-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frankel (US 6106630).

Frankel discloses a plasma processing apparatus with a casing (Fig 1B) having a work table on a pedestal configured to support a substrate (Fig 1 B-14), means for process gas (Fig 1B-9), an exhaust system (Fig 1B-23) and a protective conductive film of thickness 50-750 micron (Abstract) comprising titanium oxide and insulating material aluminum oxide (Col 10 lines 55-60), formed by thermal spraying (Col 12 lines 13-14), configured to conduct static electricity generated on the work table to a grounded portion outside the process chamber (Col 2 lines 56-65 and Col 10 lines 17-19) without connecting to the chamber casing.

Frankel does not expressly disclose the conductive film from the top of the pedestal continuing through the shaft part of the pedestal and then to ground. However, Frankel discloses ground connection for the protective film as well as the bottom of the shaft (Col 10 lines 17-19). Frankel also discloses that the film could cover larger area also (Col 2 lines 59- 61).

Therefore, it would have been obvious to extend the conductive film to the entire pedestal surface so as to be able to have a ground connection at the most convenient and reliable place.

Claims 23 and 24 cite product of a process limitations and have no patentable significance.

Regarding claim 39, Frankel is not explicit about the pedestal fixing structure.

But, it would have been obvious to provide a fixing structure so as to make sure of a good ground connection, either through the casing or directly. A person of ordinary skill would have known that the ground connection through the casing would have to penetrate any insulating film, which could have resulted from deposition process.

3. Claims 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frankel (US 6106630) in view of Shinohara et al (US 5612144).

Frankel does not expressly disclose that the conductive layer is formed over the insulating surface.

Shinohara et al disclose conductive layer on top of ceramic layer for removing static electricity (Col 3 lines 26-31).

Therefore it would have been obvious for one of ordinary skill in the art at the time invention was made to form the conductive layer on ceramic of high resistivity so that the removal of electrification through the conductive layer could be safe.

4. Claims 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frankel (US 6106630) in view of Signer (US 5948224).

Frankel does not disclose connecting a positive bias to conductive film to discharge electrification.

Signer discloses charge carriers being neutralized intermittently (Col 5 line 32-35), which would mean connecting a bias instead of ground.

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It would have been obvious to one having ordinary skill in the art at the time invention was made to connect positive bias, preferably through a switch for flexibility, to expedite the discharge process.

5. Claims 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frankel (US 6106630) in view of Suzuki Shinji (JP 05198498).

Frankel does not disclose a window for admitting UV rays on an oxidizing gas like ozone.

Suzuki Shinji discloses a treating chamber (Fig 1) with a window (40), UV lamp (45) and oxidizing gas Ozone (Abstract).

It would have been obvious to one having ordinary skill in the art at the time invention was made to provide for UV rays and Ozone for oxidation because it would be possible to take care of charged particles by coating susceptor with conductive layer.

#### ***Response to Arguments***

6. Applicant's arguments filed 11/1/2002 have been fully considered but they are not persuasive.

Applicant's argument regarding combination of Deguchi and Shinohara and other argument regarding electrical isolation of conductive film has become moot in view of the new grounds of rejection pursuant to new claims submitted by the applicant. As Frankel explicitly discloses the efficacy of the conductive film to remove electrification, any argument about resistivity becomes moot.

*Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: US 5211795.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ram N Kackar whose telephone number is 703 305 3996. The examiner can normally be reached on M-F 8:00 A.M to 5:P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on 703 308 1633. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872 9310 for regular communications and 703 872 9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0661.

RK

December 12, 2002

